



EAtHC8-8C

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8TH EAST ATLANTIC HYDROGRAPHIC COMMISSION

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1. INT CHARTING ACTIVITIES

1.1 New Charts

The UKHO has published three medium scale International Charts covering Ghana and Nigeria and are in the process of publishing a fourth.

BA1383 (INT 2806) Lagune Aby to Tema, 1:300,000, published August 2004.

BA1384 (INT 2807) Tema to Cotonou, 1:300,000, to be published in 2004.

BA1385 (INT 2808) Cotonou to Pennington River, 1:300,000 published June 2004.

BA1386 (INT 2809) Pennington River to Opobo River, 1:300,000 published August 2004.

1.2 Joint Publication

BA1387 (INT 2810) Calabar to Bata, 1:300,000, cooperation compilation, to be published by SHOM and adopted into the UK chart series in the near future.

1.3 Adoptions

BA3327 (INT 2811) Bata to Pointe Ngombe, 1:300,000, adoption in progress.

BA3328 (INT 2812) Pointe Ngombe to Lagune Ndogo, 1:300,000, adoption in progress.

2. OTHER CHARTING ACTIVITIES

Below is a brief description of the charting activities in 2003 and 2004 in areas covered by the EAthC where the UK has primary responsibility.

2.1 Gibraltar

2.1.1 The charting coverage of Gibraltar has been updated and revised. New editions of charts BA45 and BA144 were published on 29th April 2004 and included regraduation to WGS84 and general updating of the port and harbour infrastructure. A new edition of BA1448 will be published on 28th October to include extended limits and a slight reduction in scale, in order to improve coverage from the Strait of Gibraltar TSS.

3. REGIONAL COOPERATION

3.1 FRANCE

3.3.1. Adoption of the French 1:50,000 coastal series in the Bay of Biscay is nearing completion and new adoptions of the Port de Fos, Marseille and Toulon areas have been published.

3.2 SPAIN

3.2.1. Re-adoption of the new editions of BA1730 and BA1731 in Ria de Vigo have now been completed; dated for 28th October 2004 which include the new Routeing measures in the approaches.

3.3 PORTUGAL

3.3.1. Re-adoption of the new editions of BA3220, BA3221 and BA3222 in the Port of Lisbon have now been completed; dated for 28th October 2004.

4. ADMIRALTY RASTER CHART SERVICE (ARCS)

4.1 ARCS provides digital copies of paper Admiralty charts on 11 area-based CD-ROMs. Virtually all of the charts in the UKHO standard navigational chart inventory are held in Raster Navigational Chart (RNC) format for base maintenance purposes, including daily Notice to Mariners updating. 3000 charts of the UKHO inventory, including full coverage of the EAHC region, are available for customer use in the ARCS series. Additional charts will be published subject to agreements with other Hydrographic Offices (HOs).

4.2 ARCS is made available to the mariner through three levels of service:

4.2.1 **ARCS Navigator** is designed for the SOLAS market and provides an annual licence for charts including all weekly updates. Charts are kept corrected by means of a weekly Update CD-ROM which contains all the outstanding Notices to Mariners, New Charts and New Editions for the whole of the series. The user can therefore have a completely up-to-date worldwide chart outfit on just 12 CD-ROM discs.

4.2.2 The ARCS Navigator Online Update Service is currently being developed for release later. The service will enable all ARCS Navigator users to access ARCS updates via web download or email request. The provision of this online service will allow users' access to safety critical chart updates as soon as they are published. Further information about the service will be made available via the UKHO website in due course.

4.2.3 **ARCS Skipper** is designed for the leisure user. Charts are supplied up to date at the time of purchase for a one-off fee and supplemented with additional updates as required at extra cost.

4.2.4 A third service designed for the leisure user (the **Admiralty RYA Chart Plotter**) includes charts and navigational software packaged together on a single CD-ROM. Licensed on an annual basis; it is currently only available in UK waters and is designed to provide leisure users with an introduction to electronic navigation.

4.3 Navigation software and display systems for ARCS have been developed by many commercial manufacturers, ARCS itself being a navigation data supply service only. Many of these display systems will support both ARCS and vector ENC charts. Following evaluation by UKHO of data protection and safety-critical functions, systems are now available for purchase from over 45 companies. These systems range from integrated bridge systems for large vessels to stand-alone PC applications for small craft.

4.4 As a result, ARCS users range from the largest container vessels and cruise ships, through workboats and fishing vessels, to yachts.

5. ELECTRONIC NAVIGATIONAL CHARTS (ENC)

5.1 Production

5.1.1 By September 2004, the UKHO had 425 ENCs available for distribution through IC-ENC and the UKHO's ENC service.

5.1.2 The UKHO has the capacity to produce up to 20 ENCs per month (either as new cells, new editions, or as a mixture of both).

5.1.3 All of the UKHO's ENC production processes are ISO 9001:2000 certified.

5.2 Coverage

5.2.1 The main areas of geographic coverage of the UKHO's ENCs are the waters around the UK and parts of the Mediterranean Sea, the Red Sea and the Gulf. Plans to extend the coverage to other parts of the world are presently under consideration. Within the region the UK has produced Overview cells from the two INT charts for which the UK is the producer nation (INT 12 at 1:10,000,000 and INT 209 at 1:3,500,000).

5.2.2 Each of the UKHO's ENCs is broadly equivalent to a paper chart both in terms of its area of coverage and its content.

5.3 Data Capture and Verification

5.3.1 Initial data capture is contracted out to a company in India (IIC). This reduces the average in-house production time for new cells from 6 to 3 weeks.

5.3.2 The verification of data from IIC and all work on the production of updates for ENCs and new editions is done in-house in the UKHO.

5.4 Training and Assistance

5.4.1 The UKHO is able to offer the following services to other national hydrographic offices:

- Production of ENCs
- Quality Assurance (QA) of ENCs
- Updating of ENCs for Notices to Mariners and New Editions
- Provision of training in ENCs and their production (see IHO Special Publication S-47)
- Assistance with the establishment of ENC production facilities
- Assistance with the establishment of a Quality Management System for ENC production
- Assistance with the distribution of ENCs (through IC-ENC and UKHO's ENC service)

5.5 ENC Distribution

5.5.1 During 2002, the arrangements supporting the collection and distribution to market of ENCs, set up in 1998 as PRIMAR, were reviewed and dissolved in favour of a new approach. Norway continues to operate a distribution centre called PRIMAR-Stavanger and the UK has set up a second RENC, based in Taunton, known as IC-ENC - International Centre for ENCs.

5.5.2 IC-ENC is operated on behalf of Belgium, Germany, Greece, India, The Netherlands, Portugal, South Africa, Spain and the UK. IC-ENC operates a different financial structure from the original PRIMAR, and a different strategy for release to the market, replacing a single end-user service with specialist distributors (Value Added Resellers), who can package ENCs to meet the needs of the shipping market. IC-ENC considers it essential to provide comprehensive data validation, ECDIS and consistency checks prior to ENC release to ensure a supply of high quality consistent data to end-users. IC-ENC is therefore an ideal mechanism to assist nations who have ENC data ready for distribution and are either unsure of its conformity to S-57 specifications or have not yet joined a RENC.

5.5.3 IC-ENC currently has six Value Added Resellers, who each provide their own tailored services to the international market. They are C-Map Norway, Kelvin-Hughes, Norwegian Hydrographic Office, SevenCs, Transas and UKHO.

5.5.4 In its capacity as an IC-ENC VAR, the UKHO has developed the Admiralty ENC Service. The service works in the same way as the UKHO's Admiralty Raster Chart Service (ARCS). The UKHO issues the latest ENC corrections every week to ensure all subscribers have fast access to all safety critical information. Initially updates are being supplied on CD-ROM but the UKHO intends to expand the service to include remote updating via web or email. ENCs are supplied on a unit by unit basis where one unit is approximately equal to a paper chart.

6. ADMIRALTY NOTICES TO MARINERS ~On-Line~ SERVICES

- 6.1 Since January 2000, the UKHO has provided a free service known as Admiralty Notices to Mariners ~On-Line~ (ANMO).
- 6.2 Two types of data are being provided on a weekly basis, digital Notices to Mariners (Textual) and digital Notices to Mariners (Tracings). The digital tracing service is only available through appointed Admiralty Chart Distributors. The Text file is a replication of the NM Weekly Booklet containing all Chart and Publication updates together with monochrome image of the NM Block corrections. Full-colour NM Blocks are available (from week 30/2000) as separate files for those who need to update their charts by Block correction. Experience indicates that this textual data is of most use for the correction of publications and to help keep an efficient archive of NMs.
- 6.3 The UKHO NM Website was enhanced in May 2002 by the inclusion of a search facility to enable Chart Distributors and Users to:

- Search the ANMO service for all Admiralty Chart updates from the latest edition.
 - Search for all Admiralty Chart updates from previous Notices to Mariners numbers.
 - Search for all Admiralty Chart from a defined date.
 - Search for an individual NM by number and year.
- 6.4 The ANMO web site database contains historical NM updates from 1 January 2000. For updates prior to that date, reference should be made to former copies of the NP234 Cumulative List which are also available on the UKHO Website.
- 6.5 HOs who wish to access the UKHO Website can do so via www.ukho.gov.uk. The searchable NM service can be accessed directly via www.nmwebsearch.com. Whilst these ANMO services are freely available, the UKHO does not permit use of the information to provide a customised service to end users in competition with Admiralty Chart Distributors or approved Value Added Resellers.
- 6.6 Commercial vessels may obtain the digital NM text data from Admiralty Chart Distributors or directly from the Website.
- 6.7 One of the principal user benefits is the ability to receive this information whilst at sea. However, although the use of the Adobe Acrobat Portable Document Format avoids corruption of the data, it does result in large data files. Therefore it should be noted that satellite transmission is only cost effective for vessels in range of land-line communication or equipped with High-Speed Data links.
- 6.8 The UKHO has licensed four commercial companies to distribute Admiralty Notices to Mariners via satellite direct to vessels at sea. These electronic courier or value added reseller companies supply customised correction NM datasets directly related to a vessel's portfolio of charts and publications. These companies also provide ENC updates from PRIMAR-Stavanger and IC-ENC and are now capable of carrying digital updates to the Admiralty Digital List of Lights.
- 6.9 The digital form of the Admiralty Notices to Mariners is officially accepted by the UK's Maritime and Coastguard Agency (MCA), as meeting the carriage requirements for such Notices under Chapter V of the Safety of Life at Sea (SOLAS) Convention, and the Merchant Shipping (Carriage of Nautical Publications) Regulations.

7. PAPER PUBLICATIONS

- 7.1 One of our main initiatives for the paper publications product group includes the action to accelerate and convert all 74 Sailing Directions (SD) books into Continuous Revision (CR) by the end of 2007. The majority of the series will then be maintained and republished on a 3 yearly cycle removing the need for Supplements. As at 1 July 2004, 47 out of the 74 SD titles had been published in the CR format.
- 7.2 Another initiative to 'add value' to our SD product portfolio is to package a CD-ROM version with the book. The first SD to contain a CD-ROM version was

NP54 North Sea (West) Pilot published December 2003 and our intention (subject to satisfactory market research) is to publish all subsequent new edition titles with a CD-ROM version.

7.3 The following SDs in the EAtHC Region are scheduled for publication as shown:

- NP22 Bay of Biscay Pilot – December 2004
- NP67 West Coasts of Spain & Portugal Pilot – February 2006
- NP01 Africa Pilot Vol I – March 2006
- NP02 Africa Pilot Vol II – June 2005

7.4 The 5th edition of the UKHO's Ocean Passages for the World (NP136) has just been published – June 2004. This publication provides a wealth of information to enable both professional mariners and leisure sailors to accurately plan their ocean voyages. NP136 is designed to assist with planning, background research and as a reference guide. The book is complementary to the routing charts and Sailing Directions.

7.5 To support end users in the best practices of chart correcting a third edition of 'How to Correct Your Charts the Admiralty Way' (NP294) is scheduled to be published March 2005.

8. DIGITAL PUBLICATIONS

The UKHO has continued to develop new digital publications alongside its paper counterparts.

8.1 For the 2005 edition of Admiralty TotalTide (DP550), premier tidal prediction software, the UKHO is putting in place an annualised version with improved licensing for the end user. Also being developed is a flexible network solution of the product targeted at new shore markets and large commercial fleets.

8.2 A new edition of SHM for Windows (DP560) was released at the beginning of September 2004. SHM for Windows is easy to use. Users simply enter the harmonic constants for a particular port (as referred to in Admiralty Tide Tables or NP160 - Tidal Harmonic Constants), and predictions are displayed as a graph of height against time for a period of up to 24 hours, for a maximum of seven consecutive days. A major advantage of the program is the ability to store harmonic constants for any number of ports across the world, making SHM for Windows invaluable for both the professional mariner and recreational sailor. SHM for Windows (DP560) is presented on CD-ROM and is available from most Admiralty Distributors worldwide at £30.00 (UKRRP excl. VAT).

8.3 Admiralty Digital List of Lights (DP565) was released in August 2003 and is specifically designed to reduce the time and effort spent on manual corrections of paper publications. It uses exactly the same data as the paper version and gives complete world coverage divided into nine geographic areas. The product includes an interactive chart-based interface and comprehensive search facilities. It is available on an annual subscription with a free automated weekly update service provided on CD-ROM, via the UKHO web site or email downloads.

8.4 Admiralty Sailing Directions have been supported by the introduction of simple Adobe PDF files included on a CD-ROM at the back of the book, containing the text and

additional images. This CD-ROM supplement is designed to compliment the paper book and is not correctable.

8.5 Admiralty Online Catalogue was launched March 2004. This catalogue will provide access to information concerning all commercially available Admiralty products and will be freely available on the UKHO website. This product is due to be launched in Spring 2004.

8.6 The UKHO is working on producing digital versions of the Admiralty List of Radio Signals (ALRS) starting with ALRS Volume 6, Pilot Services, Vessel Traffic Services and Port Operations scheduled for release 2006.

9. MSI & RADIO NAVIGATIONAL WARNINGS

9.1 The region lies within NAVAREA II of the World-wide Navigational Warning Service. France acts as NAVAREA co-ordinator and is also responsible for the provision of Met information. In terms of GMDSS infrastructure and services the area is divided markedly in two, with the European part well served and the African part extremely sparsely served. At present there is no organisation for promulgating Coastal navigation warnings anywhere in the African part of this area, although Local navigational warnings may be broadcast by some port authorities on VHF.

9.2 The UK was represented in the Project Hydro West Africa Technical Study Team which visited the African part of the area in 2002/3. Part of the remit of this team was to encourage the development of GMDSS facilities and the initiation of services for the promulgation of MSI in the region, initially through SafetyNET via the NAVAREA II Co-ordinator. Whilst this visit undoubtedly raised awareness of the issues involved, little tangible progress has been made since the visit, probably due to a variety of organisational, technical and financial constraints. The technical workshop prior to the RHC meeting will attempt to progress some of these issues and UK delegation representatives will attend.

9.3 Currently no GMDSS facilities exist in any of the United Kingdom Dependent Territories within the area (Ascension/St Helena).

10. TRAINING AT UKHO

10.1 UKHO offers training in Hydrographic Data Processing and Marine Cartography designed specifically for students from overseas HOs. The training aims to provide a sound introduction to techniques of processing hydrographic data into published form, particularly nautical charts. It lays the foundation for data assessment and chart compilation skills and is equally relevant to a conventional or digital production environment.

10.2 To increase the accessibility of the modular training programme, two courses are available:

- A 5 week modular training course in Hydrographic Data Processing and Marine Cartography at the UKHO.

- A compact 2 week modular training course – developed for delivery at other HOs, subject to adequate demand and facilities.

10.3 The latter course is tailored to the requirements of the sponsoring nation and has successfully been delivered to 59 students. The 5 week course places particular emphasis on the International Hydrographic Organization's capacity building programme. A 5 week course has been delivered in July – Aug 2004, for 7 students. A 5 week course for countries paying for their training will be held in the autumn of 2004.

10.4 ENC Training and Assistance

10.4.1 UKHO is keen to see the successful uptake of ECDIS using ENC, and is willing to assist other nations to produce, maintain and distribute ENCs.

10.4.2 UKHO now offers the following:

- a. A 5 week course at the UKHO which includes an introduction to ENC and S-57, and ENC Production Training which is aimed at being as generic as possible (using Hydroservice dKart Software).
- b. A 2 week course off site which is non-system specific and provides an introduction to ENC and S-57.

10.4.3 Both of these courses are advertised in IHO S-47 (Training Courses in Hydrography and Nautical Cartography).

10.4.4 UKHO ENC Training also forms part of the UKHO submission to IHO/FIG Advisory Board for accreditation of Cartographic Training, and has been included as the specialism element of the submission. This submission was presented to the board in June 2003. Following feedback from the advisory board the course has been re-submitted this year with intention of achieving Category B status of the IHO M8 standard.

10.4.5 In April–May 2003 UKHO also delivered a 5 week ENC Training Course to students from the Gulf of Mexico and Caribbean region. This course was delivered in Spanish, with a translator present throughout the course. All course documentation was also available in Spanish.

10.4.6 A one week ENC 'Acquaint' course was also delivered to 2 Uruguayan officers in November 2003, with similar courses delivered to officers from the Philippines in May 2004, and the Solomon Islands in August 2004.

10.4.7 A 5 week ENC course is being delivered in September/October 2004.

10.5 Sponsorship is offered in the form of bursaries which cover the cost of tuition. In certain circumstances travel, food and accommodation charges can also be sponsored. There is a selection process, to ensure that sponsorship is offered to the countries considered to benefit most from the free tuition in line with the IHO Capacity Building programme. Sponsorship is available for all courses, subject to

availability and selection. Between 2000 and the end of 2004 the UKHO will have trained 73 staff from 17 nations.

11. TRAINING AT HMTG

- 11.1 At HMTG (Hydrographic and Meteorological Training Group), Royal Navy officers begin the hydrographic element of their combined HM training with a 12 week FIG/IHO Category B course at the HMTG formerly known as the RN Hydrographic School, in Plymouth.
- 11.2 After about four years at sea, officers wishing to become specialists in surveying will return to HMTG for the HM Advanced Survey Course (HMASC), which replaced the former Long Course from September 2001. The HMASC lasts for 21 weeks and is accredited as FIG/IHO Category A.
- 11.3 Both Category A and Category B courses are open to attendance by overseas personnel (military and civilian) and are usually fully subscribed. In 2000-2002 overseas students from Australia, Denmark, Egypt, Netherlands, New Zealand, Nigeria, Oman, South Africa and Singapore were trained.
- 11.4 At HMTG there is scope for delivery of customised training for overseas naval and civilian students in Hydrography, Cartography and Data Management to meet the needs of developed and developing Hydrographic Offices. Such courses can, by mutual agreement, involve both training at the UKHO and at HMTG.

Further information on this report can be obtained from:

Dr Peter Wright
Head of International Relations
United Kingdom Hydrographic Office
Admiralty Way
Taunton
Somerset TA1 2DN
United Kingdom

T: +44 1823 337900 Ext. 4201
F: +44 1823 284077
E: peter.wright@ukho.gov.uk

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